

ABSTRACT OF THE DISCLOSURE

A radar system for generating a three-dimensional image includes a radar transmitter which is operable to produce a radar signal of a frequency of at least three gigahertz. A plurality of radar receiving antennas from an antenna array. The antenna array is aerially translatable. For example, in one embodiment, the antenna array is disposed along the wings of an aircraft which, in operation, flies over the intended target area. A three-dimensional image is generated from a reflected radar signal returned from the surface of an object in response to the transmitted radar signal. The radar system may be incorporated into an aircraft and adapted to detect subsurface objects such as mines buried beneath the surface of the ground as the aircraft traverses over a target area.